Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (Withdrawn): A formulation comprising an anticancer agent and a base excision repair (BER) inhibitor admixed with pharmaceutically acceptable excipient, wherein the anticancer agent induces formation of AP sites.

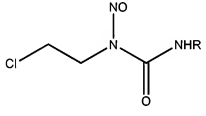
Claims 2-58 (Cancelled)

Claim 59 (Currently Amended): A method for potentiating a therapeutic effect of an anticancer agent that induces formation of AP sites in cancer cells of a patient, comprising administering to a patient with cancer an anticancer agent that induces formation of AP sites in cancer cells of the patient and an amount of a base excision repair (BER) inhibitor that is effective to potentiate the cytotoxicity of the anticancer agent to the cancer cells, the BER inhibitor ~~selected from the group consisting of an AP endonuclease inhibitor, a DNA glycosylase inhibitor, a DNA polymerase inhibitor, and a DNA ligase inhibitor, wherein the~~ comprising an AP endonuclease inhibitor, the AP endonuclease inhibitor comprising a small molecule compound ~~includes an~~ having a primary amine group that ~~and~~ binds to an aldehyde group of the AP site ~~to prevent~~ and prevents AP endonuclease-mediated cleavage of phosphodiester bonds.

Claim 60 (Previously presented): The method of claim 59, wherein said anticancer agent is selected from a DNA oxidizing agent, ultraviolet radiation, a DNA intercalating agent, a radiosensitizing agent, a cross-linking agent, and an alkylating agent.

Claim 61 (Withdrawn): The method of claim 60, wherein said anticancer agent is a cross- linking agent.

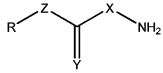
Claim 62 (Withdrawn): The method of claim 61, wherein said cross- linking agent is a mustine having the structure of formula II:



wherein R is an optionally substituted hydrocarbon substituent.

Claims 63-64 (Cancelled)

Claim 65 (Currently amended): The method of claim ~~64~~ 60, wherein said AP endonuclease inhibitor is selected from methoxyamine and a compound having a structure of Formula I:



Formula I

wherein X is O or NH,

Y is O, S, or NH,

Z is absent or represents O, S, or NH, and

R represents a hydrogen or a hydrocarbon moiety,

and pharmaceutically acceptable salts thereof.

Claim 66 (Cancelled)

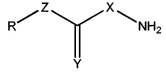
Claim 67 (Withdrawn): The method of claim 64, wherein said method further comprises administering a topoisomerase inhibitor.

Claims 68-74 (Cancelled)

Claim 75 (Original): The method of claim 60, wherein said anticancer agent is an alkylating agent.

Claim 76-77 (Cancelled)

Claim 78 (Currently amended): The method of claim ~~77~~ 75, wherein said AP endonuclease inhibitor is selected from methoxyamine and a compound having a structure of Formula I:



Formula I

wherein X is O or NH,

Y is O, S, or NH,

Z is absent or represents O, S, or NH, and

R represents a hydrogen or a hydrocarbon moiety,

and pharmaceutically acceptable salts thereof.

Claims 79-82 (Cancelled)

Claim 83 (Withdrawn): The method of claim 60, wherein said anticancer agent is a DNA oxidizing agent.

Claim 84 (Cancelled)

Claim 85 (Withdrawn): The method of claim 60, wherein said anticancer agent is a radiosensitizing agent.

Claims 86-87 (Cancelled)

Claim 88 (Withdrawn): The method of claim 60, wherein said anticancer agent is ultraviolet radiation.

Claims 89-97 (Cancelled)

Claim 98 (Original): The method of claim 59, wherein the amount of anticancer agent is subtherapeutic when administered in the absence of the base excision repair inhibitor.

Claims 99-100 (Cancelled)

Claim 101 (Withdrawn): The method of claim 99, wherein said base excision repair inhibitor is a PARP inhibitor.

Claim 102 (Cancelled)

Claim 103 (Withdrawn): The method of claim 99, wherein said BER inhibitor is an inhibitor of DNA polymerase.

Claim 104 (Withdrawn): The method of claim 103, wherein said inhibitor of DNA polymerase inhibits DNA polymerase β, γ or, ε.

Claim 105 (Withdrawn): The method of claim 99, wherein said base excision repair inhibitor is a DNA ligase inhibitor.

Claim 106 (Withdrawn): The method of claim 105, wherein said DNA ligase inhibitor inhibits the action of DNA ligase I or DNA ligase II.

Claims 107-110 (Cancelled)

Claim 111 (Withdrawn): The method of claim 59, wherein said method further comprises administering a DNA alkyltransferase inhibitor.

Claim 112 (Cancelled)

Claim 113 (Withdrawn): The method of claim 59, wherein said method further comprises administering a topoisomerase inhibitor.

Claims 114-171 (Cancelled)

Claim 172 (Withdrawn): A kit comprising a pharmaceutical preparation comprising a base excision (BER) repair inhibitor and instructions for

coadministration of the pharmaceutical preparation with an anticancer agent that induces formation of AP sites.

Claims 173-229 (Cancelled)

Claim 230 (Withdrawn): The method of claim 65 wherein the anticancer agent is an antimetabolite.

Claim 231 (Withdrawn): The method of claim 65 wherein the anticancer agent is 5-FU.

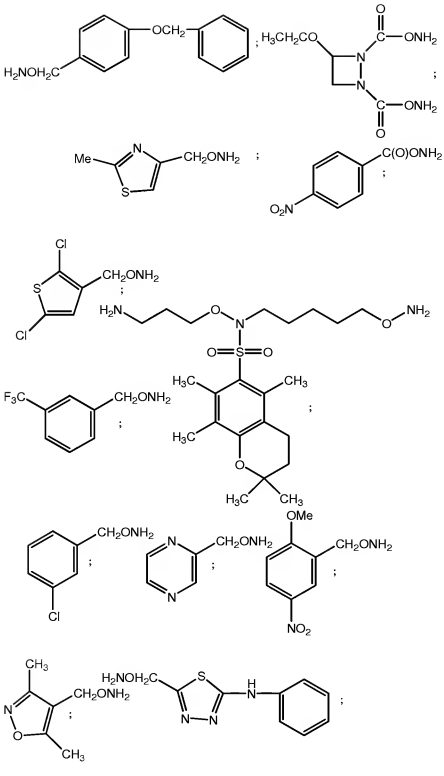
Claim 232 (Withdrawn): The method of claim 65 wherein the anticancer agent is fludarabine.

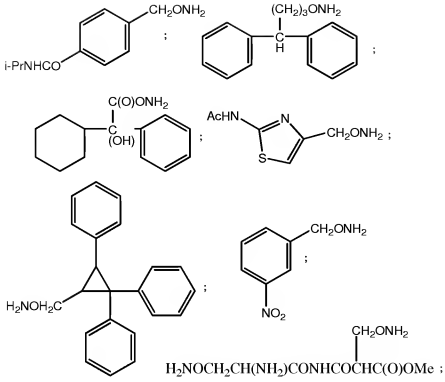
Claim 233 (Withdrawn): The method of claim 230 wherein the AP endonuclease inhibitor is methoxyamine.

Claim 234 (New): The method of claim 59, wherein said method further comprises administering a PARP inhibitor.

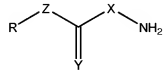
Claim 235 (New): The method of claim 59, the AP endonuclease inhibitor is selected from group consisting of methoxyamine; O-benzylohydroxylamine; ethyl aminooxyacetate; aminooxyacetic acid; ethyl aminooxyacetate; $H_2NOCHMeCO_2H$;

carboxymethoxyamine; aminooxyacetic acid; $HN{=}C(NH_2)SCH_2CH_2ONH_2$; $H_2NO(CH_2)_3SC(NH_2){=}NH$; $MeOC(O)CH(NH_2)CH_2ONH_2$; $H_2NOCH_2CH(NH_2)CO_2H$; canaline; $H_2NO(CH_2)_4ONH_2$; O-(p-nitrobenzyl)hydroxylamine; 2-amino-4-(aminooxymethyl)thiazole; 4-(aminooxymethyl)thiazole; O,O′-(o-phenylenedimethylene)dihydroxylamine; 2,4-dinitrophenoxyamine; O,O′-(m-phenylenedimethylene)dihydroxylamine; O,O′-(p-phenylenedimethylene)dihydroxylamine; $H_2C{=}CHCH_2ONH_2$; $H_2NO(CH_2)_4ONH_2$; $H_3C{-}(CH_2)_{15}{-}O{-}NH_2$, 2,2′-(1,2-ethanediyl)bis(3-aminooxy)butenedioic acid dimethyl diethyl ester;





a compound having a structure of Formula I:



Formula I

wherein X is O or NH,

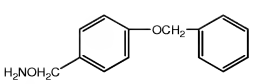
Y is O, S, or NH,

Z is absent or represents O, S, or NH, and

R represents a hydrogen or a hydrocarbon moiety,

and pharmaceutically acceptable salts thereof.

Claim 236 (New): A method for potentiating a therapeutic effect of an anticancer agent that induces formation of AP sites in cancer cells of a patient, comprising administering to a patient with cancer an anticancer agent that induces formation of AP sites in cancer cells of the patient and an amount of a base excision repair (BER) inhibitor that is effective to potentiate the cytotoxicity of the anticancer agent to the cancer cells, the BER inhibitor comprising an AP endonuclease inhibitor selected from the group consisting of methoxyamine; O-benzylohydroxylamine; ethyl aminooxyacetate; aminooxyacetic acid; ethyl aminooxyacetate; $H_2NOCHMeCO_2H$; carboxymethoxyamine; aminooxyacetic acid; $HN{=}C(NH_2)SCH_2CH_2ONH_2$; $H_2NO(CH_2)_3SC(NH_2){=}NH$; $MeOC(O)CH(NH_2)CH_2ONH_2$; $H_2NOCH_2CH(NH_2)CO_2H$; canaline; $H_2NO(CH_2)_4ONH_2$; O-(p-nitrobenzyl)hydroxylamine; 2-amino-4-(aminooxymethyl)thiazole; 4-(aminooxymethyl)thiazole; O,O′-(o-phenylenedimethylene)dihydroxylamine; 2,4-dinitrophenoxyamine; O,O′-(m-phenylenedimethylene)dihydroxylamine; O,O′-(p-phenylenedimethylene)dihydroxylamine; $H_2C{=}CHCH_2ONH_2$; $H_2NO(CH_2)_4ONH_2$; $H_3C{-}(CH_2)_{15}{-}O{-}NH_2$, 2,2′-(1,2-ethanediyl)bis(3-aminooxy)butenedioic acid dimethyl diethyl ester;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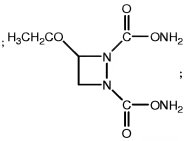
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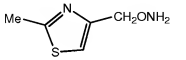
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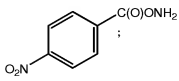
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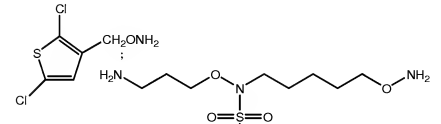
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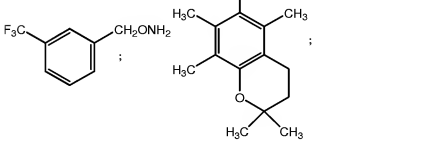
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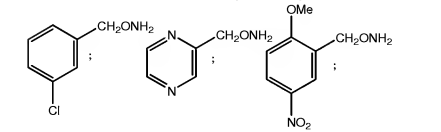
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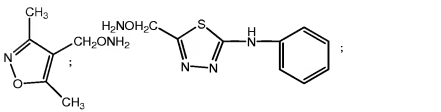
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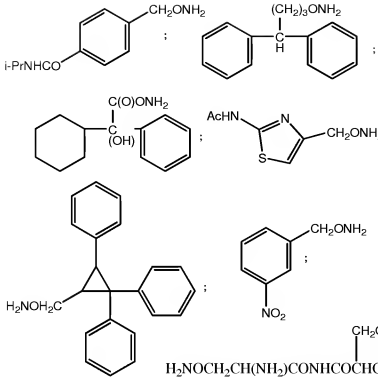
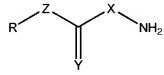


a compound having a structure of Formula I:



Formula I

wherein X is O or NH,

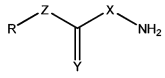
Y is O, S, or NH,

Z is absent or represents O, S, or NH, and

R represents a hydrogen or a hydrocarbon moiety,

and pharmaceutically acceptable salts thereof.

Claim 237 (New): The method of claim 236, wherein said AP endonuclease inhibitor is selected from methoxyamine and a compound having a structure of Formula I:



Formula I

wherein X is O or NH,

Y is O, S, or NH,

Z is absent or represents O, S, or NH, and

R represents a hydrogen or a hydrocarbon moiety,

and pharmaceutically acceptable salts thereof.

Claim 238 (New): The method of claim 236, wherein said method further comprises administering a PARP inhibitor.

Claim 239 (New): The method of claim 236, wherein said anticancer agent is selected from a DNA oxidizing agent, ultraviolet radiation, a DNA intercalating agent, a radiosensitizing agent, a cross-linking agent, and an alkylating agent.

Claim 240 (New): The method of claim 236, wherein said anticancer agent is an alkylating agent.

Claim 241 (New): The method of claim 236, wherein the amount of anticancer agent is subtherapeutic when administered in the absence of the base excision repair inhibitor.